WHAT IS CLAIMED IS:

(1) A vibrating piece comprising: a base; and a vibration arm section formed so as to protrude from this base, a grooved portion being formed in at least one of the obverse surface and the rear surface of said vibration arm section, wherein a cut section is formed in said base, and an electrode section is formed in a part of said grooved portion.

(2) A vibrating piece according to Claim 1, wherein a grooved portion is formed in at least one of the obverse surface and the rear surface of said vibration arm section, and an electrode section is formed in a part of said grooved portion so that the CI value ratio (crystal impedance) of said vibrating piece (CI value of the harmonic wave/CI value of the fundamental wave) becomes 1.0 or more.

(3) A vibrating piece according to Claim 2, wherein the length of the electrode section formed in a part of said grooved portion of said vibration arm section along the longitudinal direction is formed to be approximately 45% to approximately 55% with respect to the length of said vibration arm section.

(4) A vibrating piece according to Claim 1, wherein said electrode section is an excitation electrode.

(5) A vibrating piece according to Claim 1, wherein a fixation area for fixing the vibrating piece is provided in said base, and said cut section is provided in the base between the fixation area and said vibration arm section.

(6) A vibrating piece according to Claim 1, wherein said

vibrating piece is a tuning-fork vibrating piece formed by a crystal which oscillates at approximately 30 kHz to approximately 40 kHz.

(7) A vibrator having a vibrating piece housed in a package, said vibrating piece comprising: a base; and a vibration arm section formed so as to protrude from this base, a grooved portion being formed in at least one of the obverse surface and the rear surface of said vibration arm section, wherein a cut section is formed in said base, and an electrode section is formed in a part of said grooved portion.

(8) A vibrator according to Claim 7, wherein a grooved portion is formed in at least one of the obverse surface and the rear surface of said vibration arm section, and an electrode section is formed in a part of said grooved portion so that the CI (crystal impedance) value ratio of said vibrating piece (CI value of the harmonic wave/CI value of the fundamental wave) becomes 1.0 or more.

(9) A vibrator according to Claim 8, wherein the length of the electrode section formed in a part of said grooved portion of said vibration arm section along the longitudinal direction is formed to be approximately 45% to approximately 55% with respect to the length of said vibration arm section.

(10) A vibrator according to Claim 7, wherein said electrode section is an excitation electrode.

(11) A vibrator according to Claim 7, wherein a fixation area for fixing the vibrating piece is provided in said base, and said cut section is provided in the base between the fixation area and said

vibration arm section.

(12) A vibrator according to Claim 7, wherein said vibrating piece is a tuning-fork vibrating piece formed by a crystal which oscillates at approximately 30 kHz to approximately 40 kHz.

(13) A vibrator according to Claim 7, wherein said package is formed in a box shape.

(14) A vibrator according to Claim 7, wherein said package is formed in a commonly-called cylinder type.

(15) An oscillator having a vibrating piece and an integrated circuit housed in a package, said vibrating piece comprising: a base; and a vibration arm section formed so as to protrude from this base, wherein a cut section is formed in said base, and an electrode section is formed in a part of said grooved portion.